

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

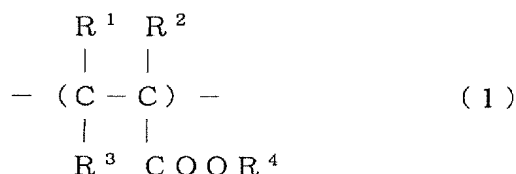
LISTING OF CLAIMS:

1. (Currently Amended) A drying shrinkage-reducing agent which comprises a polymer containing ~~as an essential component at least one structural unit~~ (i) 15 - 50 mass% of at least one structural unit (I) represented by the formula (1), (ii) 5 - 80 mass% of at least one structural unit (II) selected among a structural unit (II-a) represented by the formula (2) or a structural unit (II-b) represented by the formula (3), (iii) 0 - 15 mass% of at least one structural unit (III) represented by the formula (4), and (iv) 0 - 30 mass% of at least one structural unit (IV),

wherein the structural units (I), (II), (III), and (IV) are present in the polymer to total 100 mass%,

wherein (I) is represented by the following formula (1):

[Chemical 1]

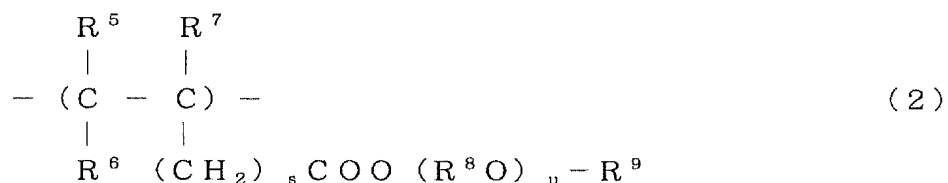


wherein R¹, R², and R³ independently stand for a hydrogen atom, a methyl group, or a -(CH₂)_pCOOX group, wherein X stands for a hydrogen atom, a monovalent metal, a divalent metal, an ammonium group, an organic amine group, or a hydrocarbon

group, and p is an integer of 0 - 2; and R⁴ stands for a hydrocarbon group of 4 - 30 carbon atoms,

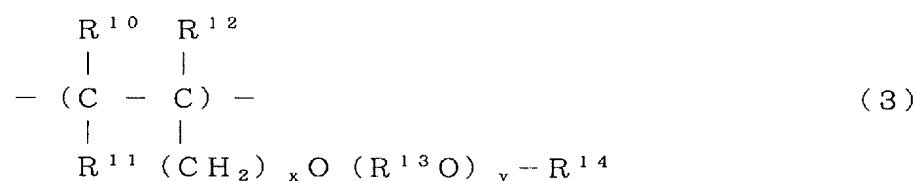
(II) is selected from a structural unit (II-a) or (II-b) represented by the following formulas (2) or (3), respectively:

[Chemical 2]



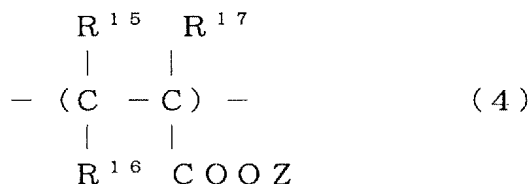
wherein R⁵, R⁶ and R⁷ independently stand for a hydrogen atom or a methyl group; s is an integer of 0 - 2; R⁸O stands for one oxyalkylene group of 2 - 18 carbon atoms or a mixture of two or more such oxyalkylene groups; u stands for an average addition mol number of oxyalkylene group (R⁸O) and is in the range of 1 - 300; and R⁹ stands for a hydrogen atom or a hydrocarbon group of 1 - 30 carbon atoms,

[Chemical 3]



wherein R¹⁰, R¹¹ and R¹² independently stand for a hydrogen atom or a methyl group; x is an integer of 0 - 2; R¹³O stands for one oxyalkylene group of 2 - 18 carbon atoms or a mixture of two or more such groups; y stands for an average addition mol number of the oxyalkylene group (R¹³O) and is in the range of 1 - 300; and R¹⁴ stands for a hydrogen atom or a hydrocarbon group of 1 - 30 carbon atoms, and

(III) is represented by the following formula (4):

[Chemical 4]

wherein R¹⁵, R¹⁶ and R¹⁷ independently stand for a hydrogen atom, a methyl group, or a -(CH₂)_qCOOZ', wherein Z' stands for a hydrogen atom, a monovalent metal, a divalent metal, an ammonium group, or an organic amine group, and q is an integer of 0 - 2; and Z stands for a hydrogen atom, a monovalent metal, a divalent metal, an ammonium group, or an organic amine group, provided that if COOZ' and COOZ are present in the total number of not less than 2, two of them may form an anhydride,

and

exhibiting wherein the drying shrinkage-reducing agent exhibits surface tension in the range of 25 - 50 mN/m in a solution containing 0.2 mass% of the polymer in a cement supernatant.

2. (Cancelled)

3. (Cancelled)

4. (Previously Presented) A drying shrinkage-reducing agent according to claim 1, which is used in a hydraulic material.

5. (Previously Presented) A shrinkage-reducing composition comprising at least one drying shrinkage-reducing agent set forth in claim 1 and a dispersing agent.

6. (Original) A shrinkage-reducing composition according to claim 5, wherein the mass ratio of the drying shrinkage-reducing agent and the dispersing agent is in the range of 99.5 : 0.5 - 0.5 : 99.5.

7. - 11. (Cancelled)

12. (Previously Presented) A shrinkage-reducing composition comprising at least one drying shrinkage-reducing agent set forth in claim 4 and a dispersing agent.

13. (New) A drying shrinkage-reducing agent according to claim 1, wherein the drying shrinkage-reducing agent exhibits a surface tension in the range of 25 - 46 mN/m in a solution containing 0.2 mass% of the polymer in a cement supernatant.

14. (New) A drying shrinkage-reducing agent according to claim 1, wherein the drying shrinkage-reducing agent exhibits a surface tension in the range of 25 - 42 mN/m in a solution containing 0.2 mass% of the polymer in a cement supernatant.

15. (New) A drying shrinkage-reducing agent according to claim 1, wherein exhibiting surface tension in the range of 25 - 38 mN/m in a solution containing 0.2 mass% of the polymer in a cement supernatant.

16. (New) A drying shrinkage-reducing agent according to claim 1, wherein the polymer contains 0 - 10 mass% of at least one structural unit (III) represented by the formula (4).

17. (New) A drying shrinkage-reducing agent according to claim 1, wherein the polymer contains 0 - 5 mass% of at least one structural unit (III) represented by the formula (4).

18. (New) A drying shrinkage-reducing agent according to claim 1, wherein the structural unit (IV) includes monomers copolymerizable with monomers (I), (II-a) or (II-b), and (III).

19. (New) A drying shrinkage-reducing agent according to claim 1, wherein the structural unit (IV) includes monomers copolymerizable with monomers (I), (II-a), (II-b), and (III).

20. (New) A drying shrinkage-reducing agent according to claim 18, wherein the structural unit (IV) includes one or more of the following monomers: half esters and diesters; half amides and diamides; half esters and diesters of alkyl (poly)alkylene glycols; (poly)alkylene glycol di(meth)acrylates; bifunctional

(meth)acrylates; (poly)alkylene glycol dimaleates; unsaturated sulfonic acids, and monovalent metal salts, divalent metal salts, ammonium salts, and organic amine salts thereof; vinyl aromatic compounds; dienes; unsaturated cyanogens; divinyl aromatic compounds; cyanurates; allyls; unsaturated amino compounds; vinyl ethers or allyl ethers; siloxane derivatives; and/or unsaturated phosphates.

21. (New) A drying shrinkage-reducing agent according to claim 20, wherein the polymer contains 0 - 20 mass% of at least one structural unit (IV).

22. (New) A drying shrinkage-reducing agent according to claim 1, wherein the polymer contains structural units (I), (II-a) or (II-b), and (III).

23. (New) A drying shrinkage-reducing agent according to claim 1, wherein the polymer contains structural units (I), (II-a), (II-b), and (III).

24. (New) A drying shrinkage-reducing agent according to claim 1, wherein the polymer contains structural units (I), (II-a), (II-b), (III), and (IV).

25. (New) A drying shrinkage-reducing agent according to claim 1, wherein the polymer contains structural units (I), (II-a) or (II-b), (III), and (IV).